Doc 2 — PFOA
Doc 4 — CA

CAMO ... is not

- DOP
- EPA

DRBC Emerging Contaminants in the Tidal Delaware River
A Pilot Monitoring Survey
Ron MacGillivray, Ph.D. to NJDEP Meeting October 30, 2008
http://www.state.nj.us/drbc/emc.htm

- Goals: collect ambient water data for use in compilation of within basin data on emerging contaminants EC (non-regulated compounds)

- Participants: DRBC and Axys Analytical Laboratories

- Analyzed for 54 **PPCP** compounds. Detected 21 compounds in ng/L.
  - Individual compound conc. max. codeine at 169 ng/L at RM 68
  - Combined pharm. conc. max. 353 ng/L at RM 68
- Preliminary assessment indicates a limited number of pharmaceuticals at concentrations in the tidal river with the potential to cause adverse ecological effects.

- Two **hormones** were detected at low levels estrone (1.3 ng/L at RM 50) and norethindrone (4.24 ng/L at RM 131)
- Three phytosterols, four fecal sterols and a cholesterol precursor were detected.

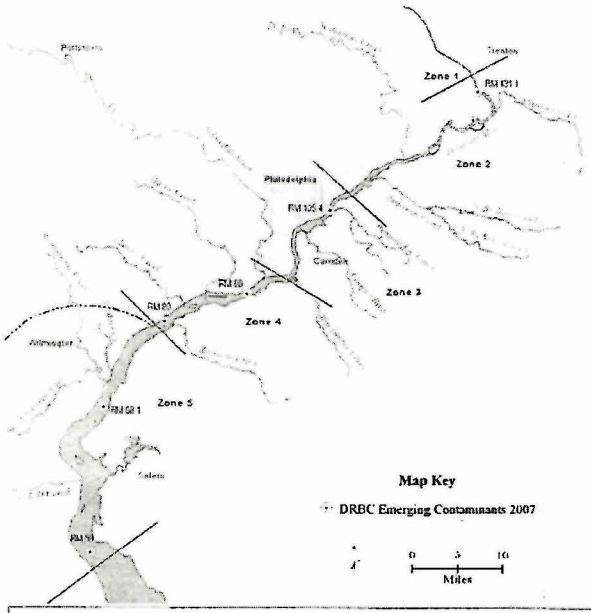
- **PFC** detected at ng/L levels
  - PFNA highest PFC concentrations
  - PFOA levels do not exceed MN surface water criteria of 610 ng/L
  - PFOS levels exceed MN surface water criteria of 6 ng/L
  - PFC monitored in DRBC fish tissue study

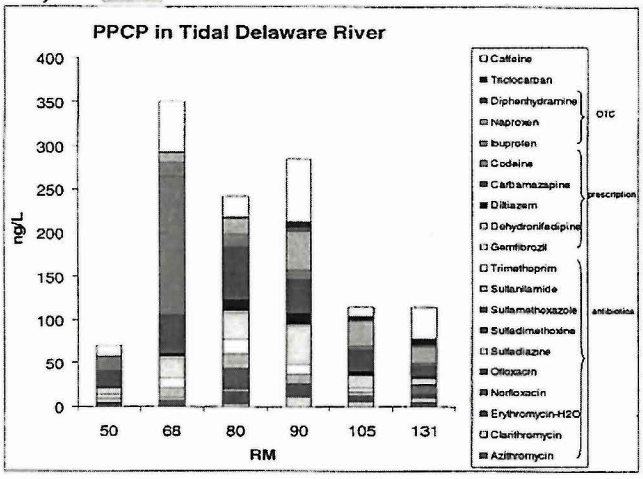
- **NP** levels do not exceed USEPA criteria

- **Diazinon** concentrations in mainstem do not exceed U.S. EPA criteria of 0.17 ug/L.
- **Carbamates** concentrations at 0.1 to 5 ng/L are below apparent levels of concern in mainstem waters based on preliminary risk index estimates.
  - Tributary surveys may be warranted.

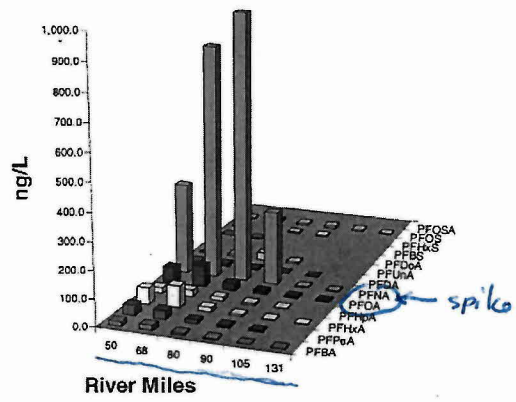
- **tPBDE** detected at concentrations between 246 to 9,376 pg/L
  - DBDE predominant homolog at three sites (2,090 to 7,630 pg/L).
  - NBDE, PeBDE and TeBDE each predominant at different sites (29 to 161 pg/L)
  - PBDE monitored in DRBC fish tissue study

- Next Steps
  - Prioritize EC and 2008 survey
  - Information exchange and additional assessment methodologies
  - Characterize effects (e.g.,estrogenicity bioassays, aquatic life health)





PFC In Ambient Waters Of TheTidal Delaware River



PBDE In Ambient Waters Of TheTidal Delaware River